

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

I. Disposition of Claims

Claims 1-14 are pending in this application. Claim 1 is independent. The remaining claims depend, directly or indirectly, from claim 1. Claims 2-9 and 11-14 have been amended to correct minor informalities.

II. Objection(s)

The claims 13 and 14 are objected to due to typographical errors. Claims 13 and 14 have been amended in this reply to clarify the present invention recited. The extraneous phrases “any of” and “or each” have been removed from claims 13 and 14, respectively. Withdrawal of this objection is respectfully requested.

III. Rejection(s) under 35 U.S.C § 103

Kurihara and Wasilewski

Claims 1-14 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,069,956 (“Kurihara”) in view of U.S. Patent No. 5,870,474 (“Wasilewski”). This rejection is respectfully traversed, as these references are not properly combinable.

In order for references to be properly combinable, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or to combine reference teachings. (*See* MPEP §2143.) Applicant asserts that the combination of Kurihara and Wasilewski does not meet this initial requirement and, thus, Kurihara and Wasilewski *cannot* be properly combined.

With respect to motivation to combine, there are three possible sources of a motivation to combine references- (1) the nature of the problem to be solved; (2) the teachings of the prior art; (3) and the knowledge of persons of ordinary skill in the art.

The Nature of the Problem

The nature of the problems to be solved in Kurihara and Wasilewski are substantially different and entirely unrelated. Kurihara is directed to detecting or identifying the changeover of scramble key information. Kurihara states, “[i]n light of the state of the art, it is an object of the present invention to provide communication apparatus and a communication method which can establish synchronism positively without fail between switching or changeover of scramble keys and that of scramble key information contained in data stream” (col. 2, ll. 17-22).

Wasilewski, in contrast, is directed to multiple service providers (“SPs”) providing services via transmission paths or connections categorized as Level 1 (L1) or Level 2 (L2). Level 1 services provide information session connection and define the portion of the system responsible for setting up and maintaining interactive communication between customers and SPs. Level 2 services define the portion of the system responsible for providing the programs request to the L1 portion of the system

from the SP and for terminating the service at the customer end of the network.

Wasilewski states: “in a digital network environment where STU [set-top-units/boxes] are uniquely addressable, and multiple SPs have access to multiple STUs, an unauthorized user could put information on the network addressed to individual STUs and thereby compromise the system. Applicants have recognized that a conditional access system in a digital network environment must have a mechanism that allows STU to authenticate the identity of the SP. Thus, applicants have recognized that an improved encryption technique is needed” (col. 2, ll. 52-61). In other words, Wasilewski seeks to resolve the problem of providing secure access to customers with multiple service providers.

Those having ordinary skill in the art will understand that detecting switching of scramble keys is entirely different than providing secure access to customers having multiple services providers. Thus, the nature of the problems that Kurihara and Wasilewski seek to solve are substantially different.

Teachings of the Prior Art

Additionally, Kurihara and Wasilewski fail to provide either an explicit or implicit teaching that the references may be combined. This is not surprising as the nature of the respective problems that Kurihara and Wasilewski solve are substantially different.

As previously mentioned, Kurihara relates to a method and apparatus for detecting a changeover or change of a scramble key, based on a version number and information indicator data. Figure 1 shows a block diagram of the scrambler in Kurihara. The scrambler (1) take as input an unscrambled data stream and outputs an encrypted

data stream. The scrambler includes a time division frame monitoring circuit (12), a time division frame controller (13), an application data encryption processing circuit (14), and a scramble key managing table (15). Based on a current version number received from the time division frame monitoring circuit, the time division frame controller compares the current version number with the previously received version number. If the version numbers are different, then a decision is made that the scramble key is changed and updated.

With respect to Wasilewski, Wasilewski teaches a method and an apparatus for providing conditional access in networks with a multiplicity of service providers (SPs). Figure 1 shows a system of a distribution system of Wasilewski being into three categories, namely, services providers, network operator, and customers. The SPs and customers are on L2 communication path, whereas the network operator are on a L1 communication path. The SPs (110a, 110b) include a file server and a gateway server, respectively, and are connected to service access and broad band encrypter re-mapper (SABER 20) and a conditional access manager (CAM 30).

The SABER(20) receives packets from a SP (110). The packets are encapsulated in the network protocol for that link. In Wasilewski, the SABER extracts the packets, adds conditional access information, and then re-encapsulates the packets in a second protocol, which may be the same or different, for introduction to the network. The CAM (30) provides the SABER with information necessary to selectively apply the conditional access information. To encrypt the packets, a control word (*i.e.*, a key) is used is provided by a random number generator. The control words undergo further encryption for increased protection.

While Kurihara and Wasilewski both generally relate to audiovisual communication systems, these references do not provide any motivation to be combined. In fact, these references teach away from one another in that the teachings of Kurihara “circumvent” security measures, whereas Wasilewski seeks to increase/strengthen security measures.

For example, Kurihara describes “a communication control apparatus and method for allowing data to be descrambled at the receiver *without fail*” (Abstract of Kurihara). To achieve this end, Kurihara does not scramble or encrypt a transmission signal if the appropriate scramble key is not available, *i.e.*, Kurihara intentionally transmits unencrypted packets to ensure that data can be descrambled at the receiver. On the other hand, Wasilewski indiscriminately encrypts all packets. Wasilewski does not show or suggest that encryption in certain cases is undesirable. To the contrary, Wasilewski’s primary teaching is encryption for providing conditional access. As shown in Figure 3, three levels of encryption are used to encrypt a packet having conditional access. In other words, in Wasilewski the accessibility of packets is conditional, whereas in Kurihara the accessibility of packets is unconditional (*i.e.*, “without fail”).

One of Ordinary Skill in the Art

Finally, in view of the fact that the references address different problems and have divergent teachings, one of ordinary skill in the art would not be inclined to combine Kurihara and Wasilewski. The Examiner asserts that it would have been obvious to one of ordinary skill in the art to combine Kurihara with Wasilewski, because the use of randomizing control word for scrambling provides improve security over non-randomizing word or encryption. As previously noted, Kurihara does not concern itself

with improving the security. In fact, Kurihara attempts to circumvent the security measures to allow the data to be descrambled at the receiver. It is unclear to the Applicant why one of ordinary skill in the art would be motivated to combine Kurihara and Wasilewski. Especially since Kurihara seeks to bypass the security measures, when the security measures interfere with descrambling data at the receiver. On the other hand, Wasilewski seeks to increase security measures, *e.g.*, through three levels of encryption.

As outlined above, there is no motivation to combine Kurihara and Wasilewski. Thus, Kurihara and Wasilewski are not properly combinable. Additionally, for at least the reasons acknowledged by the Examiner, Kurihara and Wasilewski individually do not teach all of the elements of claim 1. Because Kurihara and Wasilewski are not properly combinable and do not individually teach all of the elements of claim 1, claim 1 is patentable. Claims 10, 11, and 12, being dependent on claim 1, are likewise patentable for at least the same reasons.

Kurihara, Wasilewski, and Maples

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of an article entitled "Performance Study of a Selection Encryption Scheme for the Security Networked, Real-Time Video," authored by T. Maples and G. Spanos (hereinafter "Maples"). This rejection is respectfully traversed.

As previously discussed, Kurihara and Wasilewski are not properly combinable. Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the elements of claim 1 when considered individually. The addition of Maples to the combination of Kurihara and Wasilewski does not remedy the improper combination.

Because Kurihara, Wasilewski, and Maples are not properly combinable and do not individually teach all of the elements of claim 1, claim 1 is patentable. Claim 2, being dependent on claim 1, is likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Kurihara, Wasilewski, and Settle

Claims 3 and 4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of U.S. Patent No. 6,233,253 (“Settle”). This rejection is respectfully traversed.

As previously discussed, Kurihara and Wasilewski are not properly combinable. Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the elements of claim 1 when considered individually. Settle qualifies as §102(e) art, because Settle issued after, but was filed before the filing date of the present application. Further, Settle is assigned to Thomson Licensing S.A., who is also the assignee of the present invention. Therefore, Settle cannot be applied as valid prior art under §103(a) rendering this rejection moot. Accordingly, withdrawal of this rejection is respectfully requested.

Kurihara, Wasilewski, and Chapis

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of U.S. Patent No. 6,424,361 (“Chapis”). This rejection is respectfully traversed.

As previously discussed, Kurihara and Wasilewski are not properly combinable. Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the elements of claim 1 when considered individually. Chapis qualifies as §102(e) art,

because Chapis issued after, but was filed before the filing date of the present application. Further, Chapis is assigned to Thomson Licensing S.A., who is also the assignee of the present invention. Therefore, Chapis cannot be applied as valid prior art under §103(a) rendering this rejection moot. Accordingly, withdrawal of this rejection is respectfully requested.

Kurihara, Wasilewski, and Mao

Claims 6 and 7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of U.S. Patent No. 5,991,912 (“Mao”). This rejection is respectfully traversed.

As previously discussed, Kurihara and Wasilewski are not properly combinable. Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the elements of claim 1 when considered individually. The addition of Mao to the combination of Kurihara and Wasilewski does not remedy the improper combination. Because Kurihara, Wasilewski, and Mao are not properly combinable and do not individually teach all of the elements of claim 1, claim 1 is patentable. Claims 6 and 7, being dependent on claim 1, are likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Kurihara, Wasilewski, and Dieterich

Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of U.S. Patent No. 6,233,256 (“Dieterich”). This rejection is respectfully traversed.

As previously discussed, Kurihara and Wasilewski are not properly combinable. Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the

elements of claim 1 when considered individually. The addition of Dieterich to the combination of Kurihara and Wasilewski does not remedy the improper combination. Because Kurihara, Wasilewski, and Dieterich are not properly combinable and do not individually teach all of the elements of claim 1, claim 1 is patentable. Claim 8, being dependent on claim 8, is likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Kurihara, Wasilewski, and Sakazaki

Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of U.S. Patent No. 5,923,812 (“Sakazaki”). This rejection is respectfully traversed.

As previously discussed, Kuirhara and Wasilewski are not properly combinable. Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the elements of claim 1 when considered individually. The addition of Sakazaki to the combination of Kurihara and Wasilewski does not remedy the improper combination. Because Kurihara, Wasilewski, and Sakazaki are not properly combinable and do not individually teach all of the elements of claim 1, claim 1 is patentable. Claim 9, being dependent on claim 9, is likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Kurihara, Wasilewski, and Tatebayashi

Claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of U.S. Patent No. 6,151,394 (“Tatebayashi”). This rejection is respectfully traversed.

As previously discussed, Kuirhara and Wasilewski are not properly combinable.

Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the elements of claim 1 when considered individually. The addition of Tatebayashi to the combination of Kurihara and Wasilewski does not remedy the improper combination. Because Kurihara, Wasilewski, and Tatebayashi are not properly combinable and do not individually teach all of the elements of claim 1, claim 1 is patentable. Claim 13, being dependent on claim 13, is likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Kurihara, Wasilewski, and Schobi

Claim 14 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kurihara in view of Wasilewski, and further in view of U.S. Patent No. 4,969,188 ("Schobi"). This rejection is respectfully traversed.

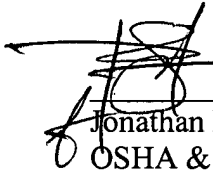
As previously discussed, Kurihara and Wasilewski are not properly combinable. Further, as noted by the Examiner, Kurihara and Wasilewski do not teach all of the elements of claim 1 when considered individually. The addition of Schobi to the combination of Kurihara and Wasilewski does not remedy the improper combination. Because Kurihara, Wasilewski, and Schobi are not properly combinable and do not individually teach all of the elements of claim 1, claim 1 is patentable. Claim 14, being dependent on claim 14, is likewise patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

IV. Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 11345.015001).

Respectfully submitted,

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